COMPETITION EARLY IN THE LIFE CYCLE OF INFRASTRUCTURE PROJECTS

Introducing competition in the provision of onshore electricity transmission networks
The National Infrastructure Committee estimates £300 billion will be spent on UK infrastructure projects in the next 5 years...

Despite (or perhaps because of) Brexit uncertainties, infrastructure spend is planned to increase....

Of which c£30bn is anticipated to be in electricity networks

Sources: 1) Infrastructure and Projects Authority (2016), "National Infrastructure and Construction Pipeline Analysis" and "Methodology and Sources for National Infrastructure Delivery Plan 2016-21".
...and regulators are seemingly keen to open up markets to competition to provide opportunities for new players...

Historically, existing (typically monopoly) providers would have delivered most of this....

New players and new sources of finance keen to access regulated asset revenue streams....

Existing players have delivered 12 OFTOs to date, corresponding to £2.2bn of assets.

...overseen by (increasingly complex) regulatory regimes

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- Context
- Competitive procurement models
- Early Model
- Conclusions

Context

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...overseen by (increasingly complex) regulatory regimes
Perceived successes of OFTOs, Interconnectors and Thames Tideway has led to quest to introduce more competition

- Regulators preference for derisked projects (e.g. Thames Tideway, OFTOs)
- ....has delivered very low headline WACC
- But project risks have often tended to be borne by taxpayers, customers and/or incumbent providers.

...but future projects might be more difficult to derisk
- Onshore electricity asset construction more risky process...
- ...future direct procurement model in water could lead to more risk in projects than Thames Tideway project.

While potentially beneficial, sector regulators need to be careful how to apply competition as complexity of projects increases...
- Over derisking of projects - against regulatory principle of leaving risks with those best placed to manage them
- Sub-optimal investment decisions – preference for large projects that can be competed and risk of less innovation.

Partly in recognition of these risks, Ofgem has been considering a range of options for introducing competition in onshore electricity transmission

...as otherwise consumers could end up paying more
The key issue with onshore electricity transmission is where in the typical investment cycle to introduce the competitive process.

Two model types have been proposed by Ofgem....

- Late model lose potential for competition to create innovative solutions...
- ...but have greater certainty in project – therefore more potential competitors

...with Ofgem preferring the Late CATO model – on the grounds that it is more implementable (and most similar to OFTO model).
To introduce competition early in the lifecycle of a project, two key uncertainties on risk and ‘investment need’ must be managed...

... offers potential of unlocking much greater innovation.

We worked with the c 30 participants in sector (finance companies, engineering firms, transmission companies and regulator) to develop potential Early model.
We started with studying possible case studies....

Examples from other industries:
- PJM - Artificial Island
- Alberta - Fort McMurray
- Ontario - EWT
- ERCOT - CREZ
- CAISO - Delaney-Colorado
- Thames Tideway

Examples from competition in transmission:
- TFL - Bank Station

Value can be created by incentivising parties to increase the benefits of an asset rather than just minimising costs.

Consenting can be accelerated by:
- a) having the party who is constructing the asset available for discussions through consenting
- b) proving to authorities that all options have been considered through the bidding process.

Tendering at the design stage has generated cost savings of on average 22% relative to the SO reference design.

Some innovation is still possible at the design stage (e.g. varying route options) despite the solution being already fixed by the SO.

Finance savings can be considerable and can only be fixed just ahead of financial close.

....and found that there were some precedents of an early model
To develop an Early Model, 4 key issues need to be solved:

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#### Key challenges

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#### Early Model proposition

- Multi-part bidding (Dev / Construction)
- Risk-sharing factors (with consumers)
- Statistical analysis (but need transparency)
- Compensation for project cancellation

#### Precedents

- OFTO
- Late ONTO model
Fixed, single bid as per OFTOs and the late CATO model won’t work – need more complexity in bidding process

In earlier stages of project, bids are structured more like options contract - providing Ofgem the right – but not the obligation - to continue with the project...

...with final payment only being fixed, within agreed parameters, at a later stage
To manage cost uncertainty, risks would need to be shared with consumers

Illustration of single cost item

Costs to CATO

Above the cap, consumers pay for all additional costs

Cap

Consumers pay for a share of overruns

Within the Cap and Floor range, CATOs take on some, but not all, of the commercial risk

Floor

Below the floor, consumers receive all additional benefits

CATO costs incurred

For each cost item, bidders submit:

- Cap and floor
- Sharing factor

This reveals bidders’ true risk appetite and willingness to absorb cost risks (rather than pass them on to GB consumers).
Assessment of bids with different sharing factors is probably the most complicated part as no longer comparing “like-for-like”

- Conflate distributions of different costs across all of the CATO’s bid parameters and costs.
- This would provide an overall expected distribution of consumer costs on a comparable basis across bidders.

CATO A selected on the basis of the lowest expected cost (50th percentile) to consumers

Underlying simulation parameters must be the same for all bidders
**CATOs should also receive fair compensation if the project is cancelled**

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- SO/Ofgem identifies change in need;
- Generation plant cancelled; or
- Force majeure.

The risk of asset stranding should remain with the consumer – as it does, for the most part, today.
Notable consensus across all stakeholders that, in principle, early competition could bring much greater innovation to the sector.

Key issues to be resolved include.....

- Exploring how pressure could be maintained on cost once a Preferred Bidder was chosen.
- Exploring benefits of the Early Model in enhanced innovation vs the dis-benefits in uncertainty over firmness and price.
- Concerns over challenge of numerous CATOs engaging with planning authorities.

**Late Model:**
This model may have benefits, but risks remain that the wrong solution will be delivered in the wrong location.

**Early Model:**
Conversely, the Early Model may be more complex, but can be made to work if regulator and industry are willing.
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